

Amendments to the Specification:

Please amend the specification as follows:

Page 1, after the title (line 1), please insert the following headings and paragraphs:

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation of co-pending International Application No.

PCT/DK02/00476, filed 8 July 2002, the disclosure of which is incorporated herein by reference.

FEDERALLY-SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable

BACKGROUND OF THE INVENTION

Please replace the paragraph beginning at page 1, line 13 with the following rewritten paragraph:

GB 2 347 873 discloses a rehabilitative exercise apparatus for exercising legs of a bedridden patient where a combination of linear movement (bending the knee) and rotational movement (bending the ankle) is ~~utilised~~ utilized, a variable braking of the linear movement being ~~utilised~~ utilized to vary the force necessary to perform the linear movement.

Before the paragraph beginning at page 1, line 22, please insert the following heading:

SUMMARY OF THE INVENTION

Please replace the paragraph beginning at page 1, line 18 with the following rewritten paragraph:

It has been shown that it is important that as many muscle groups and joints as possible be exercised against a resistance that can be varied such that a development ~~programme~~ program for the ongoing exercise may be implemented.

Please replace the paragraph beginning at page 3, line 23 with the following rewritten paragraph:

So as to be able to vary the exercise ~~programme~~ program during each stroke, during each session and from session to session, it is advantageous that the apparatus further comprises computer controlling means for controlling the power output of said electrical motor or hydraulic motor according to one or more pre-determined sequences or algorithms, and power supplying means for supplying power to said electrical motor or hydraulic motor and said to said computer controlling means.

Please replace the paragraph beginning at page 4, line 28 with the following rewritten paragraph:

In connection with children or weak, ~~paralysed~~ paralyzed or handicapped persons or for other reasons it is often desirable that even more features be available for exercising.

Please replace the paragraph beginning at page 5, line 15 with the following rewritten paragraph:

In the currently preferred embodiment of the exercise apparatus according to the invention, the resistance means comprise an electrical generator connected to said activation means such that movement of said activation means rotates said electrical generator. Hereby a simple and easily controlled resistance is available for varying the exercise ~~programme~~ program.

Please replace the paragraph beginning at page 5, line 21 with the following rewritten paragraph:

In the currently preferred embodiment of the exercise apparatus according to the invention, the force exertion means comprise an electrical motor connected to said activation means such that movement of said activation means results from rotation of said electrical motor. Hereby a simple and easily controlled activation means is available for varying the exercise ~~programme~~ program. The electrical motor may be the same as or different from the electrical generator ~~utilised~~ utilized for providing a variable resistance.

Please replace the paragraph beginning at page 6, line 30 with the following rewritten paragraph:

So as to be able to use the exercise apparatus according to the invention in many different situations, the housing is preferably provided with fastening means for fastening attachment means for attaching the housing to a chair, a table, a bed, a wheel chair or any other means for accom-

modating a person ~~utilising~~ utilizing the apparatus, and advantageously the housing may be provided with fastening means for fastening supporting means for supporting the housing in a stable position on a horizontal surface such as a floor or a table top.

Before the paragraph beginning at page 7, line 30, please insert the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Before the paragraph beginning at page 9, line 1, please insert the following heading:

DETAILED DESCRIPTION OF THE INVENTION

Please replace the paragraph beginning at page 9, line 31 with the following rewritten paragraph:

A control box 25 connected to the motor 17 by an electrical conduit 26 has display fields for displaying information about the exercise ~~programme~~ program such as work performed, time elapsed, exercise intensity and so on. In the following a more exhaustive list of possible displayed information is given. The control box 25 also contains computer controlling means for controlling the motor/generator 17 according to a desired algorithm or sequence. Data transmission means for transmitting data from the control computer or from the display means to external computing or registration means may also be provided in the control box 25.

Please replace the paragraph beginning at page 10, line 4 with the following rewritten paragraph:

The glider assemblies 9 are ~~stabilised~~ stabilized against tilting by means of an arm 28 glidingly received in a groove or track 29 in a rod 30 attached to the inner wall of the housing 1 in a manner not shown, but obvious to those skilled in the art.

Please replace the paragraph beginning at page 10, line 26 with the following rewritten paragraph:

In use, a person places both feet in the pedals 6 and 7, and, in the simplest exercise ~~programme~~ program, exercises by moving one pedal away from the person's body whereby the other pedal is moved towards said body because of the interconnection of the pedals by means of the chain 11. Hereby, the motor 17 functions as a generator and exerts a mechanical resistance against movement of the pedals and chain by the person. Said mechanical resistance is determined by the setting of the electrical resistance 24 which is controlled by the computer controlling means in the control box 25. In the simplest ~~programme~~ program, the intensity of the mechanical resistance is constant during the entire stroke of each pedal to and fro.

Please replace the paragraph beginning at page 11, line 1 with the following rewritten paragraph:

A more sophisticated exercise ~~programme~~ program may be implemented by the computer controlling means such as for instance varying the electrical resistance during the stroke of each pedal such that the resistance is lower at the start and end of a stroke, or the generator may function as a motor at certain points of the stroke to help the person perform the stroke. If one or both legs or feet of a person are ~~paralysed~~ paralyzed, then the motor may function continuously according to a pre-set algorithm to exercise the ~~paralysed~~ paralyzed leg or legs.

Please replace the paragraph beginning at page 11, line 9 with the following rewritten paragraph:

If the person ~~utilising~~ utilizing the apparatus has lost one leg, then the motor may help the remaining leg by pushing the respective pedal back as a replacement for the downward stroke of the missing leg. The pedal corresponding to the missing leg may then be removed.

Please replace the paragraph beginning at page 11, line 14 with the following rewritten paragraph:

It will be obvious to those skilled in the art that many different algorithms may be ~~utilised~~ utilized for implementing different exercise ~~programmes~~ programs combining the resistance of the motor when it functions as a generator with the active help from the motor when it functions as a motor.

Please replace the paragraph beginning at page 12, line 20 with the following rewritten paragraph:

The pivoting of the pedals 6 and 7 is an important exercise of the ankle joint and of different important leg muscles, and while the simple embodiment hereof shown in Figs. 1-3 is effective for many purposes, more sophisticated exercising ~~programmes~~ programs for the ankle joint are desirable in the same manner as described above for the entire leg.

Please replace the paragraph beginning at page 12, line 26 with the following rewritten paragraph:

Referring now to Fig. 5, the pedal 6 is provided with a toothed rim 40 meshing with a bevel gear 41 provided at one end of a shaft 42 extending through rod 5 and at the opposite end provided with a second bevel gear 43 meshing with a crown gear 44 connected with a shaft 45 corresponding to the rod 10 in Fig. 2, but naturally pivotably and not fixedly attached to the inner surface of the housing 1. The crown gear 44 is slidingly connected to shaft 45 by means of radially inwards extending pins slidingly received in longitudinal grooves or tracks 47 in the shaft 45.

Please replace the paragraph beginning at page 13, line 1 with the following rewritten paragraph:

In use, a pivoting of the pedal 6 around shaft 8 in the direction of the arrows R1 entails that shaft 45 will pivot in the direction of the arrows R2 and thus generate an electrical current in motor/generator 50 which will create a resistance to the pivoting movement of the pedal by means of not shown connections between the motor/generator 50 and a not shown variable electrical resistance corresponding to the resistance 24 in Fig. 2. If power is supplied to the motor 50 through plug 51 then the motor 50 will force the pedal 6 to pivot thus enabling an exercise of a ~~wheel well~~ or ~~paralysed~~ paralyzed ankle joint in a manner very similar to the procedure explained above in relation to Fig. 2.

Please replace the paragraph beginning at page 15, line 16 with the following rewritten paragraph:

Adjustable braking elements 87 and 88 are connected to one of the lowermost pairs of wheels 76 and 82, respectively, so as to apply adjustable braking forces to the movement of the chains or

belts 75 and 81, respectively. The other of the lowermost wheels 76 is connected to the other of the lowermost wheels 82 by means of a ~~break~~ brake element 89 for applying a relative braking force between the movement of said two wheels 76 and 82.

Please replace the paragraph beginning at page 16, line 8 with the following rewritten paragraph:

Hereby, a system of linear and rotational movement has been provided where an adjustable resistance against both linear and rotational movement of the pedal with resulting exertion of different muscles of the user's foot and leg in such a manner that many different combinations of stroke length, stroke location, necessary linear force and necessary rotational force can be achieved so as to allow development of an exercise ~~programme~~ program for an individual user or adapting the apparatus for the needs of different users.

Please replace the paragraph beginning at page 17, line 6 with the following rewritten paragraph:

Three different maximum values of the braking force are illustrated with the three curves. This is the ideal development of the braking force so that motion can be initiated against a small force which gradually builds up to the maximum. If the resistance were at the maximum from the start of the motion it would be uncomfortable and even dangerous for weakened persons to ~~utilise~~ utilize the exercise apparatus according to the invention.

Please replace the paragraph beginning at page 24, line 10 with the following rewritten paragraph:

The best results are obtained when the patient's perception of improved quality of life is in accordance with the measurements of his or her physical condition. In case of discrepancies a nurse or physiotherapist can alter the exercise ~~programme~~ program somewhat by adjusting the apparatus and thus achieve a more distinct development in the patient's own perception of his or her quality of life.

Please replace the paragraph beginning at page 24, line 30 with the following rewritten paragraph:

Some patients in this group, for instance some aphasia patients, are one-sided ~~paralysed~~ paralyzed persons, and for several reasons they will have a great need for exercising both legs, also the ~~paralysed~~ paralyzed one. A quick return to a normal life depends on persistent efforts in re-training both legs. Exercise of the ~~paralysed~~ paralyzed leg is done by means the apparatus. Thus, exercise of one-sided ~~paralysed~~ paralyzed patients will to a great degree take place in the same way as for ~~non-paralysed~~ non-paralyzed patients.

Please replace the paragraph beginning at page 25, line 1 with the following rewritten paragraph:
Some patients will benefit from the exercise obtained by being encountering resistance against bending the legs, i.e. pulling at the pedal. This can be combined with the general exercise performed by leg stretching, i.e. pressing down the pedal, if the press prevents leg ~~streeching~~ stretching until a certain pull at the other pedal is registered. Combined exercises of this kind will be particularly suitable for patients in this group.

Please replace the paragraph beginning at page 25, line 7 with the following rewritten paragraph:
Like the one-sided ~~paralysed~~ paralyzed patients the one-sided leg amputees have a great need for exercise. Also for these patients it is important to get going as soon as possible. The quickly initiated exercise gives the best long-term results and for these patients it is a particular problem to get sufficiently all-round and extensive exercise.

Please replace the paragraph beginning at page 25, line 12 with the following rewritten paragraph:

Apparatus type 2 has some unsymmetrical functions as it is also used by one-sided ~~paralysed~~ paralyzed or amputated persons.

Please replace the paragraph beginning at page 25, line 15 with the following rewritten paragraph:

It is equipped like apparatus type 1, but the return movement of a pedal can be performed by the apparatus itself. This means that exercising a one-sided ~~paralysed~~ paralyzed patient or a person with a missing or very weak leg can take place more or less in the same way as for persons without this handicap.

Please replace the paragraph beginning at page 25, line 26 with the following rewritten paragraph:

The apparatus is provided with a control means enabling the patient to monitor and control the exercise when assisted exercise is used, for instance for one-sided ~~paralysed~~ paralyzed patients. The apparatus can be stopped immediately if a movement does not feel comfortable.

Please replace the paragraph beginning at page 26, line 1 with the following rewritten paragraph:

The attending physician can use some of these measurements or a physiotherapist for registering the patient's condition, both in absolute terms and relative to previous measurements. This information can be used when planning the further development of the rehabilitation.

Please replace the paragraph beginning at page 26, line 15 with the following rewritten paragraph:

As one-sided ~~paralysed~~ paralyzed patients are often involved, it is a particular advantage that the walking function can be retrained without risk of falling. Experience shows that exercise of the healthy leg also improves the ~~paralysed~~ paralyzed leg. Furthermore, if the patient is able to exercise the ~~paralysed~~ paralyzed leg, assisted by motors of the leg press, it is to be expected that the total activity involved will promote the recovery. The concentration and the efforts in this connection will probably promote the rehabilitation and as the load can be reduced it is possible to exercise and thus concentrate on the muscular activity of the legs for quite a long time without risk of overloading muscles and joints.

Please replace the paragraph beginning at page 27, line 4 with the following rewritten paragraph:

After discharge from the hospital the further rehabilitation of the patient will often take place at the premises of a ~~practising~~ practicing physiotherapist and accordingly as for patient group 2 in this connection. It will be possible to continue the rehabilitation as described for this group.